

Abstract of the Disclosure

The present invention relates to devices including a protein matrix material and the methods of making and using such devices. More specifically the present invention relates to protein matrix devices that may be utilized for various medical applications including, but not limited to, current (magnetic and electric) released drug delivery devices for the controlled release of pharmacologically active agents, electromatrix devices (e.g. antennae, leads, chips, wires, etc), coatings for implantable medical devices (e.g. Micro-Electronics Minaturization Systems (MEMS), pacemakers, etc.) and imaging and diagnostic devices. Furthermore, the present invention relates to devices including a protein matrix made by forming a film comprising one or more biocompatible protein materials and one or more biocompatible solvents. The film may also optionally include one or more pharmacologically active agents and/or one or more conductive materials. The film is then partially dried, rolled or otherwise shaped, and then compressed to form the desired protein matrix device. During the rolling or shaping of the film, one or more conductive materials, and/or one or more implantable devices may be placed into the film and thereby compressed to form a coating around the conductive materials, and/or implantable devices.